

Nuclear Division News



A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 7 No. 17/August 19, 1976

inside ...

Thirteen more Nuclear Division secretaries have earned certification; their pictures and story begin on page four.

Other features in this issue include:

More Golden Shoe awards . page 2

Question Box page 3

Dr. Lincoln page 7

Division promotions . . . pages 2,3,8

ORNL announces first Wigner appointments



J. Denis Newbold



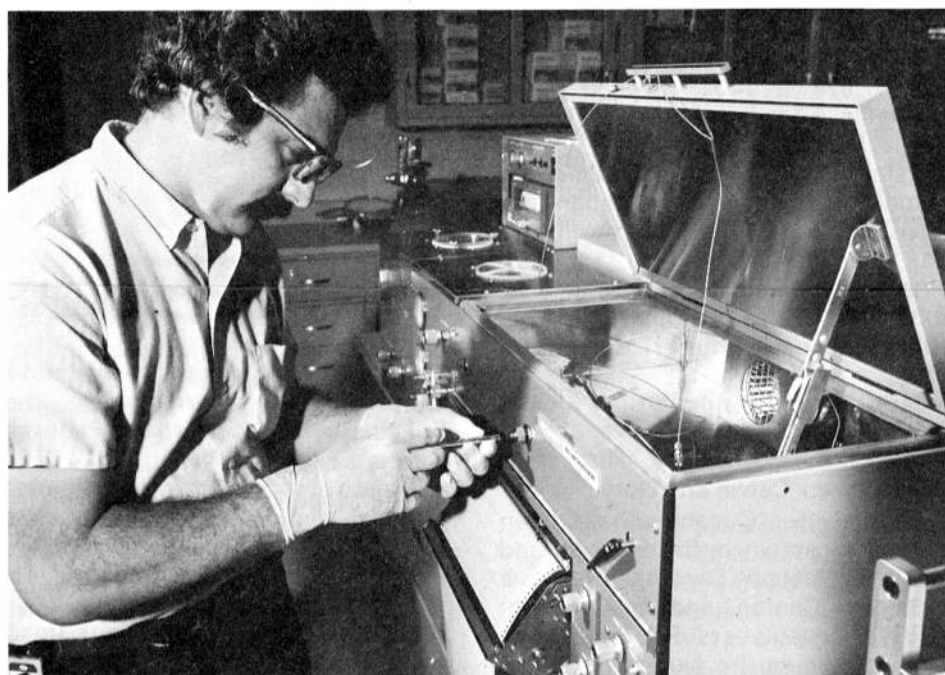
Martin V.K. Ulehla



Bruce V. Waddell



George C. Wei



CANCER RESEARCH—James Selkirk, Oak Ridge National Laboratory's Biology Division, uses this high pressure liquid chromatograph to separate the almost identical metabolites of benzo(a)pyrene.

Hydrocarbon's role in cancer studied by Biology researchers

by Robert L. Wesley

The mystery of why one person does not get cancer is just as puzzling as why another does get the disease, especially when both are heavily exposed to the same cancer-causing agent.

James K. Selkirk, who recently came to the ORNL Biology Division staff from the National Cancer Institute in Bethesda, Md., is leading an investigation into the mysteries of benzo(a)pyrene, a polycyclic aromatic hydrocarbon, produced from the imperfect combustion of anything that is burned—fuel, garbage and even char-coaled steaks. An estimated 1,300 tons of benzo(a)pyrene is produced in this nation every year and it can be assumed that we breathe some of this

into our lungs and ingest it with our food and water intake.

Only a few micrograms of benzo(a)pyrene applied directly to the skin of laboratory mice can produce tumors. It has been suspected as a cause of cancer in humans. But considering the tremendous quantity of this agent produced in our industrialized society, why don't we all succumb to cancer?

Chimneysweep research

The amount of exposure to the material, such as a heavy daily occupational exposure, could be a causative factor. Selkirk cited the original discovery made some 200 years ago that something in soot could cause cancer.

Oak Ridge National Laboratory has announced the first four appointments in the Eugene P. Wigner Fellowship Program, established early in 1976 to honor the Nobel laureate who was the first Director of Research and Development at ORNL (then Clinton Laboratories) in 1946-47.

Wigner, who won the Nobel Prize in physics in 1963, is currently an ORNL consultant and spends the remainder of his time at Princeton University, where he is professor emeritus of mathematical physics.

The first Wigner fellowships have been awarded to J. Denis Newbold, a Ph.D. candidate at the University of California at Berkeley; Martin V. K. Ulehla, Ph.D. candidate at the Massachusetts Institute of Technology; George C. Wei, who holds the Ph.D. degree from MIT; and Bruce V. Waddell, who comes to the Laboratory from the Institute for Advanced Study, Princeton, N.J.

The Wigner Fellowship Program is designed to provide an opportunity for physical, social and life scientists and engineers no more than three years past the doctorate to gain experience in areas of science and technology related to national energy problems and needs. Fellows will work in one of 14 research divisions at ORNL, a multidisciplinary research

institution operated by Union Carbide Corporation for the Energy Research and Development Administration.

Newbold, who will work in the Environmental Sciences Division during the tenure of his fellowship, holds a B. S. degree in engineering from Swarthmore College and an M.S. in hydraulics and hydrology from Cornell University. Later this year he will receive the Ph.D. from Berkeley in wildland resource science; emphasis in his graduate studies has been on freshwater and systems ecology.

Martin Ulehla, who will receive the Ph.D. in theoretical physics from MIT in August, has a B.S. degree in physics from the University of Houston. Ulehla recently spent three weeks as a Racah Fellow at the International School of Subnuclear Physics, Erice, Italy. He will work in ORNL's Solid State Division.

George Wei has been employed in ORNL's Metals and Ceramics Division since January, 1976. Wei received the B.S. degree in physics from the National Taiwan University and the Ph.D. degree in materials science from MIT. He has also worked one summer in the materials science division at Argonne National Laboratory.

Bruce Waddell received his B.S. degree in physics from the University of Kentucky and the Ph.D. in physics from MIT. Most recently he was with the school of Natural Sciences of the Institute for Advanced Study, Princeton, N.J. Waddell's field of interest is theoretical plasma physics; while at ORNL he will work in the Thermonuclear Division.

The Wigner Fellowship appointments are awarded for a period of two years; it is expected that five new appointments will be made in the program each year. Individuals interested in applying for a Eugene P. Wigner Fellowship are invited to write to the Office of Professional and University Relations, Oak Ridge National Laboratory, P.O. Box X, Oak Ridge, Tennessee 37830.

"In 1775, a British physician named Percival Pott found that English chimneysweeps suffered a high incidence of cancer of the scrotum," Selkirk said. "Checking with physicians in other European countries, he found that chimneysweeps in Holland were not experiencing scrotal cancers. The apparent difference was that the Dutch sweeps bathed more regularly than the English sweeps. His finding caused a law to be passed in Britain requiring that chimneysweeps bathe once a week and new cases of the disorder declined right away."

(Please turn to page eight)



SAVED BY SHOES—ORNL Plant and Equipment Division Director Harry E. Seagren presents certificates of membership in the Golden Shoe Club to B. Joe Hannifin (left) and Luther Gordon Jr. Both men escaped serious foot injuries by wearing safety shoes.

Two more in Golden Shoe Club

Two employees in the Plant and Equipment Division, Oak Ridge National Laboratory, received membership in the Golden Shoe Club August 4. B. Joe Hannifin and Luther Gordon Jr., both of the Building and Utilities Department, received their membership certificates from P&E Director Harry E. Seagren.

Membership in the Golden Shoe Club is awarded to employees who have avoided serious foot injury by wearing metal-capped safety shoes. Plant and Equipment Division now counts 28 Club members among its employees.

Hannifin, a pipefitter, was lifting a 45-pound gate valve off a scaffold

when the end of the valve dropped, striking the cap of his shoe. He avoided a probable fracture in the incident.

Gordon, a painter, earned his membership when his foot slipped under a rotary mower while he was mowing his yard. Backing away from a small staked tree, Gordon tripped on one of the stakes and his right foot went under the mower as he struggled to regain his balance.

The blade struck the toe of his shoe several times with enough force to tear off the leather covering and break the metal cap. Gordon's big toe was fractured and the others were bruised, but there were no lacerations or permanent damage.

Energy Division picks managers for new environmental assessment projects



Charles R. Boston **Harry G. Arnold**

Charles R. Boston and Harry G. Arnold, Energy Division at Oak Ridge National Laboratory, have been appointed to serve as managers of two new environmental assessment projects.

Boston will direct the environmental assessment of coal conversion technology, and Arnold is manager of work on environmental assessments for the ERDA Division of Geothermal Energy. Both are in the Energy Division's environmental impact section.

Boston has served for the past two years as a task group leader for the Nuclear Regulatory Commission Environmental Statements Project, preparing environmental statements on nuclear facilities. He joined the staff of

ORNL's Metals and Ceramics Division in 1953 and joined the Environmental Statements Project in 1972. In 1973 he was promoted to task group leader.

Boston received his B.S. degree in chemistry from Ohio University in 1949 and his Ph.D. from Northwestern University in 1953; he is a member of several professional organizations. He and his wife, Pat, live in West Knoxville.

Arnold came to ORNL in 1964 after two years of experience with a hydraulic component manufacturer. He received a B.S. in mechanical engineering from the University of Mississippi in 1962; while working at ORNL he received an M.S. from the University of Tennessee.

He was one of the early participants in preparing environmental impact statements at ORNL, and became involved with geothermal energy four years ago while working on the Diablo Canyon impact statement. Most recently he has been project engineer for LMFBR fuel storage and low-BTU coal gasification projects. Arnold, his wife, Bebe, and his sons, Glenn and Jeffrey, live in Oak Ridge.

ORGDP tells five promotions



Carbone



Hunt



Melton



Queener



Ramsey

Five promotions have been announced at the Oak Ridge Gaseous Diffusion Plant.

Louis H.J. Carbone has been named a supervisor in the Fabrication and Maintenance Division. A native of Newark, N.J., he has been at ORGDP seven months, working for the Kennedy Space Center in Florida prior to joining Union Carbide.

He and his wife, Suzanne, live at 1000 James Ferry Road, Kingston. They have two children, Marie and Donise.

John M. Hunt has been promoted to a supervisor in Barrier Manufacturing. Born in Vonore, he has been at ORGDP almost two years. He worked in the Films Packaging Division of Union Carbide at Loudon three years before joining the Nuclear Division.

He and his wife, the former Susey Harris, live at 5401 Innwood Road, Knoxville. They have three children, Leslie, Michael and Christy.

Estel V. Melton has been named an inspection engineer in the Laboratory Division. He is a native of Powell, and has been at ORGDP almost a year. Prior to that time, he worked in Y-12 four years and was employed at Oak Ridge Technical Enterprise Corporation.

Mrs. Melton is the former Jessie Mae Holbert, and they live at 406 Melton Court, Knoxville. They have two children, Calvin and Gary.

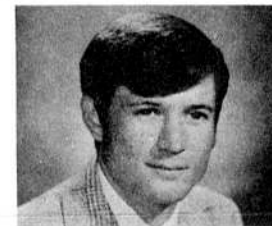
Samuel E. Queener has been named a captain in the Security and Plant Protection Division. He is a native of Clinton, and has been at ORGDP seven years. Prior to joining Union Carbide, he worked with the Heekins Can Company.

He and his wife, Mary, live at Route 3, Clinton, with their two daughters, Vickie and Mary.

Gene R. Ramsey is a new supervisor in Barrier Manufacturing. He was born in Louisville, Ky., and is a graduate of East Carolina University. He was a captain in the U.S. Air Force, worked as a heavy equipment operator in construction, and did painting and house remodeling before joining Union Carbide more than two years ago.

He and his wife, Georgia, live at 100 Sanford Lane, Oak Ridge. They have two children, Tina and Brian.

Named construction engineer at PGDP



J.B. Ballard

James B. Ballard has been named a construction engineer in the Engineering Division at the Paducah Gaseous Diffusion Plant.

A native of Paducah, he attended Paducah Junior College and holds a B.S. degree in construction technology from Murray State University. He joined Union Carbide in 1974.

He lives at Route 7, Old Cairo Road, with his wife, the former Carol Scott. They have a daughter, Deanna Linn.

retirements



Rossmassler



Lankford



Weaver

William R. Rossmassler elected early retirement recently from the Paducah Plant's Laboratory Division. A native of Princeton, N.J., he joined Union Carbide in 1943. He and his wife will return to New York.

Theodore E. Lankford, Y-12's Process Maintenance, retired July 31, ending 32 years company service. He lives at Route 2, Oak Ridge Highway, Knoxville.

Frances Hudson Weaver, a senior

secretary in Operations Analysis and Planning at the Oak Ridge Gaseous Diffusion Plant, will retire at the end of September, ending more than 32 years company service. She lives at 1621 Lawson Avenue, Knoxville.

Virginia Childress Welch, a senior payroll clerk in General Accounting, will also retire at the end of September. She joined Union Carbide in 1945, and lives at 2109 Needham Drive, Knoxville.

question box

If you have questions on company policy, write the Editor, Nuclear Division News (or telephone your question in, either to the editor, or to your plant contact). Space limitations may require some editing, but pertinent subject matter will not be omitted. Your name will not be used, and you will be given a personal answer if you so desire.

Pay increase comparisons

QUESTION: Recently hourly employees at ORNL and Y-12 received a nine percent raise. Tennessee Valley Authority salaried employees received a nine percent wage increase based on an annual period, while Union Carbide employees are now receiving five and six percent based on a 16-month period. This amounts to less than four percent annually.

How can Carbide justify this type of wage policy when the salaries and benefits at TVA are already higher?

ANSWER: Union Carbide salaried employees receive increases in salary based on the job level, their position, in the rate range, and their performance. The increases received by employees are varied in percentage and not, as you state, 5% and 6% based on an 16-month period. Some employees are receiving more than 9%; others are receiving less. Our salary rates compare favorably with TVA's and with rates paid by other large employers in the area and are significantly higher than others in Oak Ridge and Knoxville.

Job reevaluations

QUESTION: Six months ago several in my division were re-evaluated and told we would be promoted as soon as our supervisor writes a job classification (which the supervisor never has time to do). We have been told our job classification would be changed to the appropriate level of our work. How long must one wait? It's very discouraging to be told each time "We're still working on it." We're wondering if anyone is sincere and if we will ever see the change.

ANSWER: If your job is re-evaluated your job description and evaluation results would be in your facility Salary Office. We recommend you check again with your supervision and if they cannot provide you with sufficient information, contact your facility Salary Administrator.

Job upgrading

QUESTION: In our division there is an employee who does a good job and has worked as the technician at another building. Division personnel have told him they have tried through the years to get his job upgraded but that Personnel keeps refusing to go along. However, Personnel apparently has no qualms about raising the other job that he is fully qualified to perform to a higher classification than his present job. Can anything be done to help this employee receive a better job rating or a reclassification?

ANSWER: Without knowing all the pertinent facts, it is not possible to properly respond to your question. The employee involved should discuss his problem with his supervision, and if it can't be resolved in that manner, he should then go to the Salary Administrator at his installation with the matter.

Does illness defer raises?

QUESTION: At ORNL there have been instances of salary increases being deferred because of over 20 days absence due to sickness. In one case, sickness was under the doctor's care and the individual has been employed over 30 years. Is it Company policy to do this?

ANSWER: It is Company policy to consider absences in connection with salary increases, including absences due to illness. The criterion of 20 work days is used only as a guide for review purposes; it is not applied as a hard and fast rule.

25-year awards

QUESTION: I recently received my 25-year award from Union Carbide. At the time it was selected I was told that my wife's name could not be engraved on the clock instead of mine. Is this true? And why?

ANSWER: The 25-year award which you received was a gift from the Company to you in recognition of your having completed twenty-five years' service. Since it is a gift to the employee, the Company does not believe it is appropriate to put any name on the clock or watch other than the name of the employee to whom the gift is given. We are aware of the part that a wife or husband has played during this period, but feel that appreciation of this can be better expressed by the spouse than the Company.

Inter-plant hiring

QUESTION: While still employed at Y-12, I was interviewed by ORGDP. During this interview I was told that people from Y-12 made bad employees. This sentiment was also repeated during my training associated with my new job at ORGDP. Does the Company feel that statements such as these encourage hard work?

ANSWER: If such statements were made, we regret it. They certainly do not represent the Nuclear Division's nor ORGDP managers' sentiments, as evidenced by the fact that over 500 Y-12 employees have been transferred to ORGDP during the past two years.

Not enough credit has been given to those involved, particularly the managers at ORGDP and Y-12, for the good job done during this period in placing Union Carbide employees in openings before going outside to fill them!

patents granted

To Ronnie A. Bradley and John D. Sease, both of ORNL, for "Preparation of High Temperature Gas-Cooled Reactor Fuel Element."

To Charles R. Schmitt, Y-12 Plant, for "Fire Extinguishant for Fissionable Material."



James H. Shoemaker



Emmett L. Moore

New fire, guard chiefs at Y-12

Emmett L. Moore has been named chief of the Fire Department and James H. Shoemaker has been promoted to chief in the Guard Department at Y-12.

Moore, a native of Marion, Va., has been a foreman in Utilities, recreation director and a fire and guard captain in his 29 years with Union Carbide.

He and his wife, Virginia, live at 211 North Purdue Avenue, Oak Ridge.

They have four sons, Larry, Rodney, David and Emmett Jr., and two daughters, Becky Wolfe and Patricia Burgess.

Shoemaker was born in Beattyville, Ky., and has been in the Guard Department since 1944.

He lives at 424 Hicks Circle, Clinton, with his wife, Audrey. They have three children, Jim, Wes and Gloria.



WISE OWL NOW—Billy K. England, left, is congratulated by Robert A. Winkel, manager of the Oak Ridge Gaseous Diffusion Plant, as he becomes a member of the Wise Owl Club. England, a machinist at ORGDP, was operating a planer in the Machine Shop when a tool broke and threw a piece of metal against his safety glasses. Because he was wearing safety glasses, he was not injured. The Wise Owl Club is sponsored by the National Society for the Prevention of Blindness.

Savings Plan-Personal Investment Account

Recent unit values:

	Fixed Income Fund	UCC Stock	Equity Investment Fund
August 73	10.0000	34.7688	10.0000
December 73	10.2444	31.8170	9.3602
December 74	11.0438	40.3009	6.4354
December 75	11.9880	58.7886	7.8231
April 76	12.3354	70.6876	8.4018
May 76	12.4228	71.5969	8.3487
June 76	12.5112	68.8163	8.7524

Note: Fixed Income Fund unit values reflect interest additions to achieve the guaranteed effective annual interest rate of 8.85% for 1976. Union Carbide stock values are the average cost of stock purchases during the month plus brokerage charges. Equity Investment Fund unit values represent the month-end market value of securities held by the Fund. Dividing the total value by the number of units in the fund establishes the month's unit values—and the price at which new units are added that month.

Thirteen new CPS's bring Division total to 100



Sandra F. Vaughan



Louise Scogin



Ellen Queener



Brenda Yarborough

The announcement of Certified Professional Secretary status for 13 Nuclear Division secretaries in 1976 brings our grand total to an even 100 -- more CPS's than can be claimed by any company in the country. Most of these are still on the payroll, although several have retired since being certified.

Certified this year are E. Diane Duck, Celia T. McClure, Ellen Queener, Rachel R. Smith and Brenda Yarborough from the Oak Ridge Gaseous Diffusion Plant; Peggy B. Johnson, Evelyn J. Nelson, Sandra F. Vaughan and Ellen N. Williams from Oak Ridge National Laboratory; Barbara Bowers from the Y-12 Plant; Mary Frances Tolliver from the Nuclear Division's Computer Sciences Division; and Louise Scogin and Zela Trotter, from UCND Engineering.

Barbara Bowers, a senior secretary in Employee Relations Division (Medical Department) at Y-12, joined Union Carbide in 1959. A native of Knoxville, she has also worked in the Metal Prep Division. She and her husband, Lloyd, live at 9017 Middlebrook Pike, Knoxville.

Diane Duck is in Capacity Expansion at ORGDP and will have two years of company service next month. A native of Knoxville, she holds a two-year secretarial certificate from the University of Tennessee. She lives on Harmon Road in Powell.

Peggy Johnson, secretary to an associate director of Instrumentation

and Controls Division, ORNL, joined the Nuclear Division in 1966 after attending the University of Tennessee. She is a native of Somerset, Ky., and lives at 5727 Woodleaf Drive, Knoxville, with her husband, Carey, and son, Keith.

Celia McClure, secretary to the Cascade Maintenance Department superintendent in ORGDP's Fabrication and Maintenance Division, has also worked in ORGDP's Employment Department and the Shift Superintendent's office. She came to the Nuclear Division in 1974 after working with the Maremont Corporation, Loudon; the Avery Lumber Company, Sumter, S.C.; and Newcomb & Hawk, Attorneys, Harriman. She is a graduate of Knoxville Business College and is a Harriman native. McClure and her husband, Ray, have one daughter, Christy; they live on River Road in Kingston.

Evelyn Nelson, a two-year Nuclear Division employee, is a record clerk in Finance and Materials Division, ORNL, and has also worked as a secretary in Environmental Sciences Division. A Wartburg native, she is a business graduate of the University of Tennessee. She lives at 421 West Outer Drive, Oak Ridge.

Ellen Queener is secretary to the field maintenance superintendent in ORGDP's Maintenance Division, and has also worked with the Maintenance Engineering Department at ORGDP. A native of Ewing, Va., she is a 24-year

Union Carbide employee and taught at Rogersville (Tenn.) High School before coming to Oak Ridge. Queener holds an A.B. degree in business education from Lincoln Memorial University and has attended the University of Tennessee; she and her husband, Herman, live at 290 Illinois Avenue, Oak Ridge.

Louise Scogin is secretary to the superintendent of Environmental Control Engineering in UCND's Engineering Division and has been with Union Carbide since 1953. She is a native of Dalton, Ga., and has worked as a secretary in Dalton and Atlanta. Scogin has studied accounting at the University of Tennessee. She and her husband, John, live at 115 Cooper Circle, Oak Ridge, and have a son, Errol, who lives in Kingston, and a daughter, Mrs. D.E. Plemons, of Oak Ridge.

Rachel Smith is a secretary in the Operations Planning Department in ORGDP's Operations Division and has also worked in the operations engineering section. She came to the Nuclear Division in 1974 following employment with the American Enka Corporation, Lowland; and Hamer, Severance and Sharp in Oak Ridge. A Morristown native, she has attended the University of Tennessee evening school. Smith and her husband, Douglas, have two children, Christy Lynn and Paige; the family lives in Oliver Springs.

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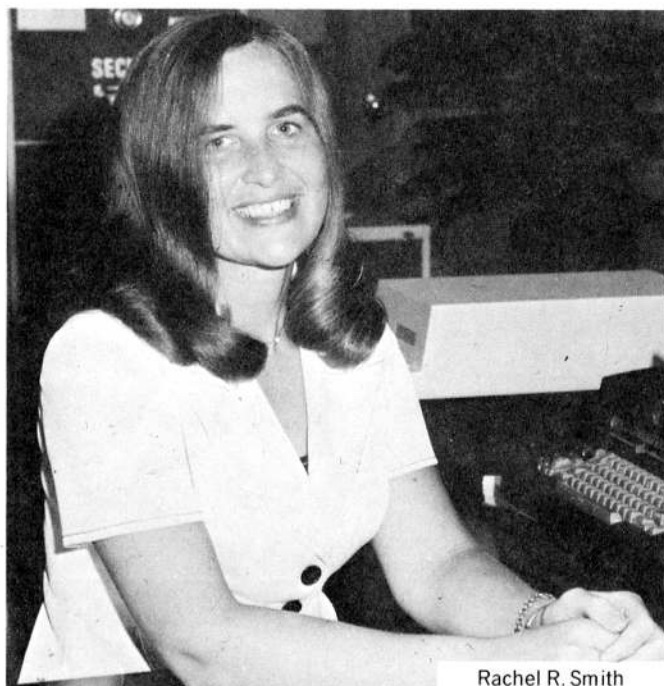
Barbara Bowers



Evelyn J. Nelson



E. Diane Duck



Rachel R. Smith



Zela S. Trotter



Mary Frances Tolliver

(Continued from page four)

Mary Frances Tolliver is a senior secretary in computer operations, UCND Computer Sciences Division; she has also worked with Engineering and in Fabrication and Maintenance Division at Y-12. Before joining the Nuclear Division in 1970 she worked at the Bank of Oak Ridge, Oak Ridge Associated Universities and in several other secretarial positions. A native of Boone, N.C., she has attended the University of Tennessee and Roane State Community College. She and her husband, Clayton, have one son, Gregory. The Tollivers live at 121 Newhaven Road, Oak Ridge.

Zela Trotter is a secretary in UCND's Engineering Division and has also worked in the Reactor and Chemical Technology Divisions at ORNL. She is an 11-year Nuclear Division employee, coming to Oak Ridge from Decatur, Ala., and is a graduate of Knoxville Business College. She and her husband, Frank,

have three children, Tracy, Cindy and Kevin. They live at 7312 Belinda Drive, Powell.

Sandra Vaughan, a secretary and receptionist in ORNL's Biology Division, joined the Nuclear Division in 1970. Her previous work experience included positions at William R. Perkins Library and the Woman's College Library at Duke University; from 1967-1968 she was a technical assistant in Caracas, Venezuela, on a Ford Foundation Grant from Duke. A native of Hickman, Ky., she holds a B.A. degree in history from Southwestern College at Memphis and has done work towards a master's degree in library science at the University of North Carolina. Vaughan and her husband, Gerald, live on Gallaher Ferry Drive, Lenoir City.

Ellen Williams is a publications assistant in ORNL's Information Division and has also worked as a secretary in Neutron Physics Division

at ORNL. A two-year Nuclear Division employee, she has also been employed with A.J. Mettler Hauling and Rigging, East Tennessee Children's Hospital and St. Mary's Hospital in Knoxville. She is a native of Oak Ridge. She and her husband, John, have three children, Mark Williams, Ginger Berrier and Michelle Williams. The family lives at 3716 Vienna Drive, Knoxville.

Brenda Yarborough is a department secretary in Operations Analysis and Planning Division at ORGDP. Before joining the Nuclear Division in 1968, she worked with the Chemical Separations Corporation and the Nuclear Chicago Corporation; at ORGDP she has also worked with the contingency plans coordinating staff and atomic energy combined operations planning. Yarborough is a native of Oak Ridge. She and her husband, Roger, have two children, Tracy and Kristy. Their home is on Old Harriman Highway, Oliver Springs.



Peggy B. Johnson



Celia T. McClure

anniversaries

ORGDP 35 YEARS



C.F. Hale

Charley F. Hale, Materials and Systems Development Department, joined Union Carbide in South Charleston, W. Va., in 1941, and transferred to ORGDP in 1943. A graduate of Berea College, he has attended UT doing graduate work in physical chemistry. He and his wife, Fay, also a Berea graduate, live at 215 Outer Drive. They have two children, Henry and Sharon.

Hale has held major offices in the East Tennessee Chapter of the American Chemical Society, is a Fellow in the American Institute of Chemists, and a member of the

American Association for the Advancement of Science.

30 YEARS

Frances G. Campbell, Medical Department; Taylor C. Archer, Oak Ridge Area Electricity Distribution Department; James R. Brandon, Central Reproduction Services; and Richard E. Brockwell Jr., Technical Evaluation Department.

25 YEARS

Virginia L. Roisum, William M. Henley, Frank S. Rempala, Russell C. Harmon, Kenneth E. Prater, Ray N. Steward, Robert L. Smith and Herman H. Lett.

20 YEARS

William E. Weathersby and Whitney L. Cochran.

Y-12 PLANT

25 YEARS

John M. Marquiss, Pauline P. Williams, Lewis L. Gasaway, Hal S. Bartless, William C. Dietrich, Henderson P. Smith, Rhea E. Hester, Ralph V. Guy, Chester Spradlin, Melvin L. Chandler, Fred L. Alexander, Leonard Nation, Jack D. Bounds, Jack H. Pebley, William H. Hubbs, Howard

J. Hicks Sr., Glenn H. Kindred and Robert H. McNabb.

20 YEARS

Everett C. Alred and Graydon H. Lovely.

GENERAL STAFF

25 YEARS

John M. Ball

20 YEARS

Robert C. De Binder.

PADUCAH

25 YEARS

Peter K. Alquist, James E. Hickman, Robert L. Trieglaff, Gerald D. Wyatt, Roy W. Stroup, Stanley Duncan, Richard R. Mason, Joseph D. Lindsey, Harry B. Goode, Fred P. Beckman, Bill D. Penry, Leonard J. McNeely, Robert C. Ward and John C. Locke.

ORNL

30 YEARS

Mansell E. Ramsey, Central Management Offices; Denton C. Gary, Health Physics Division; Charles E. Murphy, Plant and Equipment Division; Kenneth E. Jamison, Plant and Equipment Division; Hubert A.

Parker, Analytical Chemistry Division; and William S. Hornbaker, Plant and Equipment Division.

25 YEARS

Vaughn W. Ownby, William C. Colwell Jr., Charles R. McAmis, Robert M. Freestone, Willard R. Huntley and Robert G. Affel.

20 YEARS

John T. Meador, Peggy A. Lyons, Walter P. Eatherly and Steve G. Makres.

recreationotes

Softball leagues

The Snakes still hold a perfect record in the Atomic League, with 15 wins - no losses; as the Fes-Kids take first place in the Nuclear League, with 13 wins - three losses.

League standings follow:

ATOMIC LEAGUE

TEAM	WON	LOST
Snakes	15	0
E.S.D.	13	1
Gas House Gang	11	3
Shifters	12	4
Artie's Army	10	5
Bruins	10	5
Bio Rejects	9	5
Ecology	7	6
BMS - Bioradicals	7	7
Avengers	7	8
Beta 2 Bunters	4	9
Outlaws	4	10
Ridge Runners	4	10
Mc's Pack	4	10
The Steelers	3	11
Hot Dogs	1	13
Rednecks	0	14

NUCLEAR LEAGUE

TEAM	WON	LOST
Fes-Kids	13	3
The Streakers	12	4
Terodactyls	10	5
Barrier Bombers	10	7
Knuckle Balls	9	7
Thermos	8	7
Killer Bees	9	9
Swingers	8	8
Magnetic Fielders	8	9
Knockers	7	11
Ding-Bats	3	13
Odds & Ends	2	14

Y-12 golf tournament

Raymond Plemons took the Y-12 tournament on the greens at Southwest Point, driving in a 76 score. John Baker placed second with a 78, tied with Danny Rowan. In the scratch handicap counting, it was Charlie Haun with 78, and Don Branson, with 82.

The second flight was capped with D.F. Hall's 80, and Earl Lincoln's 86. Handicap honors went to Herb Hensley, 83, and R.D. Atkins, 91.

In flight three it was Dave Fortune, 86; and O.C. Willard, 90. Fred Mundt, taking handicap honors, carded a 90 score and Tommy Webber put a 93 on the scoreboard.

Junior fishing rodeo

A Junior Fishing Rodeo, for employees' children at the Paducah Plant, was recently staged at "Devil's Elbow" on Barkley Lake. Sixty-five children, from ages 2 to 12, accompanied by parents, grandparents and, in one case, great grandparents, participated in the fishing and hot dog eating event. Many camped out in the area so they could get an early start on the fishing. Sleeping bags were awarded to 11 lucky fishermen and everyone consumed hot dogs, soda, potato chips and cookies at the happy event.

Oak Ridge bowling

Paging all bowlers wishing to participate in league bowling for the winter. Eligible participants include employees, spouses, and retirees, both from the Nuclear Division's three Oak Ridge Plants, and the Oak Ridge Associated Universities.

All leagues are planning expansion this year, and bowling is available on almost every night of the week, so whatever your preference... let the Recreation Department know about it. There are mixed leagues, leagues for women alone, and leagues for men. Recreation's number is 3-7833. Let them put your name in the pot early.

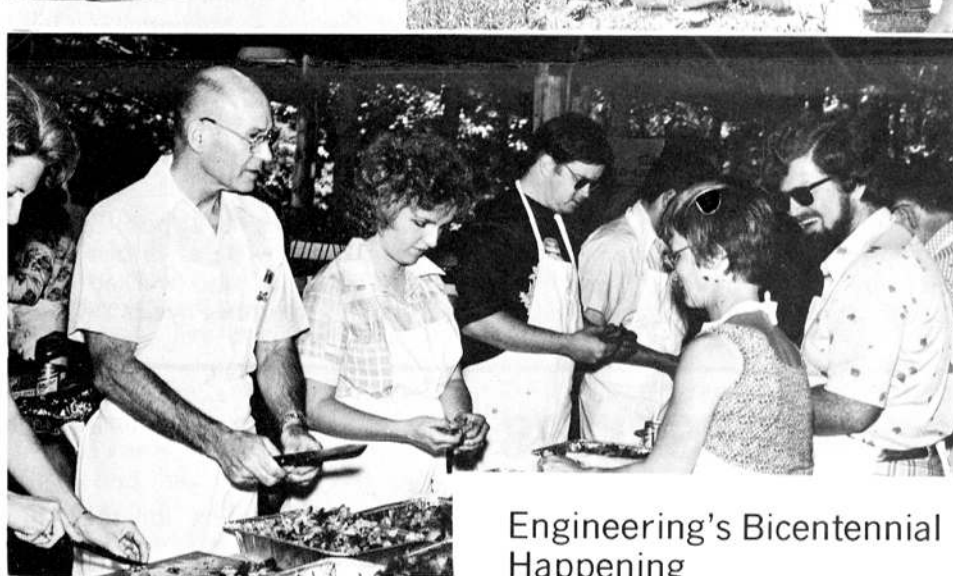
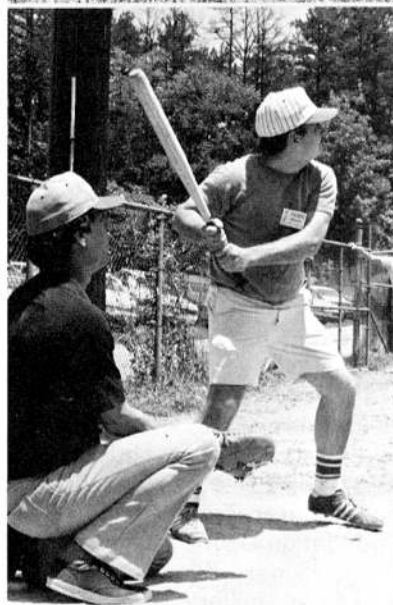
Carbide bowling

The Oops team takes a four-point lead in the All Carbide Family Bowling League, as Joe Morgan, 553; and Tillie Plaza, 520, were high scorers recently.

Speaking of high rollers, it was C. Nelson in the Carbide Shifter's League, rolling a 265 single recently for his Team Number 3, as Team 6 keeps a rather healthy lead.

Skeet league

Vern Raaen, ORNL, capped first place in July firings at the Carbide Skeet League, firing a 48.939. R.A. Allstun, Y-12 took a 48.813; and Perry Bullard, also of Y-12, posted a 48.610. A total of 12 marksmen participated in the July shoot.



Engineering's Bicentennial Happening

The annual Engineering division's picnic, with a "Bicentennial Holiday" theme, was held recently at the Clark Center Recreation Park. A record crowd of more than 900, including employees from all three Oak Ridge plants, enjoyed the festivities.

ORNL Instrument Engineering, coached by Larry McDonald, won the softball competition for the second year in a row. The tug-of-war was also won in a repeat performance by Experimental Engineering, coached by Hugh Beeson. The men's hole-in-one championship was shared by Brian Alenskis and Mike Gregg and the women's championship was won by Jean True.

Live entertainment, provided by three musical groups with widely varying styles, offered something for everyone's musical taste. The use of a player piano added greatly to the setting.

The barbecue supper was the finishing touch to a perfect day of fun and enjoyment.

ORNL golf tournament

J. Cornelius' 75, coupled with A. Wright's resulted in a tie for lows at ORNL's Dead Horse Lake tournament. R. Bryant finished second with a 77. In handicap scoring it was L. Manley, 78; and J. Wiggins, 77.

Flight two went to R. Baer, with 79; and B. George with 84. Handicap honors were gleaned by E. Hensley, 81; and J. Barnes, 85.

The third flight belonged to B. Bottenfield, who tied with C. Thomas, each with 88. M. Carter and J. Parker took a 92 card to tie for second place.

Handicap lows went to R. Livesey, 91; and A. Singletary, J. Van Cleve and M. Shearin, all with 93.

calendar of events

August 26

Technical Review of Gas-Cooled Fast Breeder Reactor Program, East Auditorium, ORNL, 9 a.m. - 4 p.m.

Tee-Off Time Application for August 28

(Check Appropriate Plant)

- ☐ ORGDP — Dead Horse Lake
☐ Y-12 — Wallace Hills
☐ ORNL — Southwest Point



LEADER

Phone Bldg.

Time Preferred

COMPLETE AND RETURN TO YOUR RECREATION OFFICE

Entries must be received prior to drawing on August 25, 2 p.m.

ORGDP — Building K-1001 — C Wing — MS 122

Y-12 — Building 9711-5 ORNL — Building 2518

Tee-off times for all tournaments will be drawn on Wednesdays prior to each Saturday's tournament. Golfers are responsible for reserving their own carts by contacting the pro shop following drawing for tee-off times.



medicine chest

by T. A. Lincoln, M.D.

(Editor's Note: Dr. Lincoln alternates his regular column with "The Medicine Chest," where he answers questions from employees concerning health in general. Questions are handled in strict confidence, as they are handled in our Question Box. Just address your question to "Medicine Chest," NUCLEAR DIVISION NEWS, Building 9704-2, Stop 20, Y-12, or call the news editor in your plant, and give him or her your question on the telephone.)

QUESTION: "Is there any literature on growths on men's breasts? My 30-year-old son has an enlarged breast on his right side with some hardness to it. What are the causes and cures? If he has to have surgery, how long will he have to be off from work, and how long should he stay off beer and mixed drinks before having the surgery? Is there any risk if he doesn't stop drinking before? Please give me as much information as you can, as he no longer takes any of my advice."

ANSWER: The male breast is a miniature version of the female breast and is subject to most of the same diseases. They occur with a greatly decreased frequency, but the list is nevertheless long. In addition, a man's breast can signal a number of serious internal diseases and toxic reactions.

The enlargement may look and feel like a young adolescent female breast, or it may be a rubbery plate-like enlargement under the nipple which spreads out like a fan. The firm breast tissue is freely movable and is not attached to the skin or the chest wall. In some men, it is mildly tender, but in most it is painless.

Enlargement which persists occurs in both breasts in only about 25 percent of the cases. The most common age for its appearance is late adolescence and into the early twenties. A second increase begins in the forties and continues into the seventies.

Some bilateral breast enlargement is fairly common at the onset of puberty, but it usually disappears rapidly. About 15 percent of those who later develop enlargement of one or both breasts will recall that they had noticeable swelling of their breasts at puberty.

Investigate after 25

In many cases, the cause of the transitory enlargement late in adolescence is probably related to a hormonal imbalance, and in many cases it will go away without any treatment. Men who develop an enlarged breast after age 25 should be carefully investigated. Many of the cases represent an expression of a serious underlying disease or a toxic reaction to some drug.

Disorders of the liver, chronic lung disease, diabetes, tuberculosis, leprosy, heart disease, high blood pressure and kidney failure are all well-documented causes. Malfunction of the thyroid, adrenal and pituitary glands can also enlarge one or both breasts. The appearance of a growing breast may be an early sign of cancer in some other part of the body, especially in the lung or testicle.

Many drugs can produce

enlargement of one or both male breasts as a side or toxic reaction. For example, diuretics used to treat high blood pressure, digitalis for heart disease, and isoniazid for tuberculosis may cause breast enlargement.

Alcoholism one cause

Heavy marijuana smokers occasionally develop female-like breasts, which usually go away after they stop smoking. Alcoholism is a common cause because it damages liver function. The liver normally metabolizes or detoxifies many substances, including hormones, and when its function is damaged, these materials accumulate and affect the breast. The small quantity of female hormone present in every man may gradually build up in an alcoholic until it causes the breasts to grow. In men with cirrhosis of the liver, big male breasts are common.

Cancer of the male breast is about 100 times less frequent than in the female breast, but it does occur, and must always be considered a possible cause. The prognosis used to be thought to be worse in men than women, but now most investigators believe that it is about the same if it was at the same level of growth or spread to regional lymph glands when it was discovered. Benign tumors, cysts, and scar tissue from old injuries are fairly common and are not serious.

Your son needs a careful investigation to rule out one of the many reasons not directly related to the breast. If the cause is in the breast itself and the surgeon feels it should be removed, it can be done quite easily if the condition is benign. If a cancer is found, more radical surgery will be necessary. If benign, only a couple of days in the hospital should be required, and return to light physical work should be possible in a couple of weeks.

Drinking should stop

Now, about your son's drinking! If he is a heavy drinker and surgery is planned, he should stop drinking completely a minimum of seven days before he enters the hospital. If he is going to develop the "shakes" during his withdrawal, they will start soon enough for everyone to realize how serious the drinking problem really is. Alcoholics are poor surgical risks, and if they develop delirium tremens during the postoperative phase, it can lead to a major crisis. Surgeons all report many cases where the only way they could control their patients was to put alcohol in their intravenous fluids!

Joins Public Relations staff



Joe W. Gollehon

Joe W. Gollehon has joined the Nuclear Division's Public Relations Department staff to coordinate the Department's publications program and handle news coverage of ORNL programs in the reactor and engineering sciences. His office is at the Laboratory.

Gollehon comes to the Nuclear Division from the Tech Center of Union Carbide's Chemicals and Plastics Division in South Charleston, W. Va. He joined the staff there in 1973 in the Employee Relations Department.

A native of Radford, Va., Gollehon holds a B.S. in journalism from West Virginia University, where he held a Scripps-Howard scholarship. He is a member of the Public Relations Society of America and in South Charleston was on the board of directors of West Virginia Communicators, a local chapter of the International Association of Business Communicators.

Gollehon and his wife, Debbie, live at 251AA Ivanhoe Road, Powell.

Golf leagues

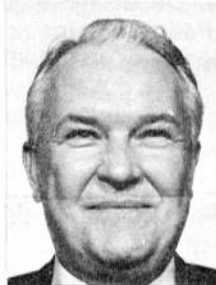
K-25's A Shift Golf League gives Allen Hill and Mike Newell the leg up in the first round, Leonard Miller and Rick Davis in the second round.

Sherrod-Shelton stay one point ahead of Pappas-Waldrop in the South Hills Golf League for Carbiders.

Zang and Amerine are still walk-away leaders in the Dead Horse Lake League, out front of Huber-Mustaleski.

In the Southwest Point League it is Crawford and Richardson, tied with Kirchler and Marshall.

ORGDP golf tournament



McBride

Alvin Boatwright claimed the title in ORGDP's July tournament at the YMCA Center Golf Course, with a 75. W.J. Moore, Dave Lannom, E.L. Arnold and Roger Boyd all tied for second place with 76.

Handicap winners were R.W. Lynn, 76; and Doug Lovette, 78.

Division two went to B.J. Ford, 77; and D.L. Glover, 81. Henry McBride took a 78 handicap score for honors there, and G.G. Human and Ron Campbell carded an 82. McBride aced hole number two with a wedge. The 129-yard, three par hole won him a dozen extra golf balls for the hole-in-one!

Division three went to Paul Maples, 82; and Bruce Vaughn, 86. E.L. Hannahs, 101, and J.A. Turley, 87, took handicap laurels.

Stopping drinking one week before surgery will not allow the liver to recover adequately, but will enable detection of how serious the alcohol dependence really is. Most surgeons perform several liver function tests during the routine preoperative workup. When abnormalities are found, the surgery may have to be postponed. A damaged liver cannot adequately detoxify certain anesthetics.

I suspect you will show this article to your son and he will get angry at your meddling in his life. Hopefully, he will at least take it with him and read it after he has calmed down. I hope he will accept my advice even though he rejects yours. It could save his life!

Paducah catfish contest

At the Paducah Plant a catfish contest was recently completed, with six winners taking awards for large catches. Frank Smith landed a 17 pound plus blue channel cat, and took a rod and reel for his prize. James Adkins poled in a 14 and one-half pounder that won him a spotlight. James Smith boated a 12 pound, 10 ounce specimen to earn a life vest. Pam Adkins, daughter of James, was slightly off the pace with a 10 and one-half pounder, to take a plastic ice chest. E.M. Steinbeck and daughter Michelle were fifth and sixth respectively, with fish of nine and seven pounds to take a lantern and a safety kit.

Oak Ridge

Toastmasters elect

Several Nuclear Division employees were recently elected officers in the Oak Ridge Toastmasters Club. New officers are Bob Scott, president; Martin Perrote, ORGDP, educational vice president; Dean Oen, ORNL, administrative vice president; Wade Adams, ORGDP, secretary; Bob Bernard, ORNL, treasurer; and Loren Carey, ORGDP, sergeant-at-arms.

Guests are invited to attend Oak Ridge Toastmasters meetings every Monday evening at the Alexander Motor Inn. Meetings begin at 6:15, following dinner at 5:45.

nuclear division news

UNION CARBIDE

James A. Young, Editor

Ext. 3-7100

Carol Grametbauer, Assoc. Editor

Ext. 3-6266

Keith Bryant, Paducah

Bell 369

Doug Carter, ORGDP

Ext. 3-3434

UNION CARBIDE CORPORATION
NUCLEAR DIVISION

Hydrocarbon's role in cancer

(Continued from page one)

Despite Pott's finding, it wasn't until 1918 that tumors were experimentally produced on rabbit skin (by Japanese researchers) by painting the animals with coal tar products. Some 15 years later, British scientists isolated and identified the carcinogenic compound now known as benzo(a)pyrene. Other researchers picked up the trail and investigations into carcinogenic compounds of coal tar products continued until 1950 before starting to decline. The investigators found that not only did one have to worry about the original polycyclic aromatic hydrocarbons, such as benzo(a)pyrene, but also the potentially carcinogenic compounds that resulted from the metabolism of these compounds in the body.

Poor defense system

Within recent years, interest in the potential hazards of coal tar products and their metabolite forms has been revived because of the need to make more economical use of coal through development of new industrial processes. Planners would like additional information on what types of hazards or precautions should be anticipated. The planners will rely to some extent on the fundamental information provided by biochemists attempting to determine how some of these chemicals react within human cells.

Many investigators believe that individual cells have defense mechanisms to nullify the effect of intruding compounds that could cause cancer. But the defense systems sometimes break down. Is the poor defense due to the lack of certain cell enzymes which ordinarily would neutralize the compound or is failure due to the presence of too many other enzymes which the compound can activate to produce a tumor growth?

'Roadmap' of tumor

Selkirk's research is supported by the National Cancer Institute through an interagency agreement with ERDA. He explained some of his research goals:

"We'd like to assemble a 'roadmap' of how benzo(a)pyrene starts into tissue and works its way into becoming a tumor. We want to know how it is able to use the cell's own enzymes to produce a tumor. Or, if the agent fails to start a tumor, we'd like to know precisely how the cell used other enzymes to neutralize the agent. Once all the pathways and mechanisms are defined within a cell, it might be possible to stop a cell from producing enzymes which could be used against the cell. But such applications are probably a long way in the future. For now, we are still trying to learn all the activation and breakdown pathways and to assemble all the 'actors in the play' that comprise the cell's normal and tumorigenic chemistry.

Comparison purposes

"We will carry out tests on tissue from mice, rats and hamsters for comparison purposes. Perhaps we can gain a clue as to what biochemical actions make one species more resistant than other species to this type of cancer agent. As part of our experi-

ments we will also use human and rodent epithelial (skin) cells in cultures."

One of the challenges of the research, he said, has been the difficulty involved in isolating the various metabolic "versions" of benzo(a)pyrene after it has been processed through the liver and other body tissues. When the compound is ingested into a person or an animal, it is metabolized predominantly by the liver and can result in as many as 15 different versions of the original compound. Most of these are so very similar in their chemical structure that it has been very hard to identify them. Selkirk, using high pressure liquid chromatography, has developed unique methods which provide a more definitive study of these metabolites than has been possible before.

Other members of the Selkirk research team include Diane Abernathy and Marnee McFarland.

division deaths

Robert D. Lichtenberg, in Paducah's Maintenance Department, died recently at his Paducah home.



Mr. Lichtenberg

A native of Paducah, he joined Union Carbide in 1968.

Survivors include his wife, Billie Jean, and sons, Robert, Bobby and Gary.

Funeral services were held at the Roth Funeral Chapel, with burial in the Maple Lawn Cemetery.

John W. Bowen, Isotopes Analysis Division at the Oak Ridge Gaseous Diffusion Plant, died recently at his 222 North Purdue Avenue, Oak Ridge, home.



Mr. Bowen

Mr. Bowen joined Union Carbide in 1956.

Survivors include his mother, Mrs. Gay Bowen; sisters, Phyllis Bell, Sallie Lou Bowen and Linda Milton; brothers, Charles R., Paul K., James A. and Gerald C. Bowen.

Services were held at the Ware Funeral Home, Weber City, Va., with the Rev. Robert M. Copeland Jr., and the Rev. Edwin C. Berwanger officiating. Burial followed in Bound Cemetery, Clinchport, Va.

next issue ...

The next issue will be dated September 2. The deadline is August 25.

237TH DIVIDEND

The board of directors of Union Carbide have declared the corporation's 237th consecutive dividend, 62.5 cents a share on outstanding stock of record at the close of business August 6.



MIRROR, MIRROR... Donna Patrick, of the Shift Superintendents and Utilities Division, ably demonstrates the reflective quality of this test mirror, typical of the metal mirrors produced at the Y-12 Plant. The Plant has developed machines which can finish metal surface mirrors to a tolerance of less than 100 millionths of an inch and which have a reflectivity of greater than 99 percent. Such mirrors are manufactured on a computer-controlled machine equipped with an air-bearing spindle, diamond-knife cutting tool and a unique part support system to lessen vibration and distortion during the cutting process.

wanted



ORGDP

RIDE from Scruggs Avenue, Clinton, to Portal 4, straight day. Margaret S. Webb, plant phone 3-3034, home phone Clinton 457-9635.

JOIN CAR POOL from Karns to any portal, ORGDP, straight day. C.E. Harris, plant phone 3-3750, home phone Knoxville 690-3709.

JOIN or FORM CAR POOL from Bearden Shopping Center, South Knoxville area, to Portal 4, straight day. John R. Ross, plant phone 3-3267, home phone Knoxville 577-0692.

RIDE or will join car pool from Farragut area, to Portal 3 or 4, A Shift. Don Muldrew, plant phone 3-3421, home phone Knoxville 966-8306.

Hamilton promoted



J.H. Hamilton

Joe H. Hamilton has been named a laboratory supervisor in Y-12's Product Certification Division.

A native of Alcoa, Hamilton attended the University of Tennessee prior to joining Union Carbide 21 years ago. He is also a veteran of the U.S. Navy.

Hamilton lives at 107 Lawrence Lane, Oak Ridge, with his wife, the former Wanda McPherson. They have two sons, Douglas and Craig, and a daughter, Kay.



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